No. 213

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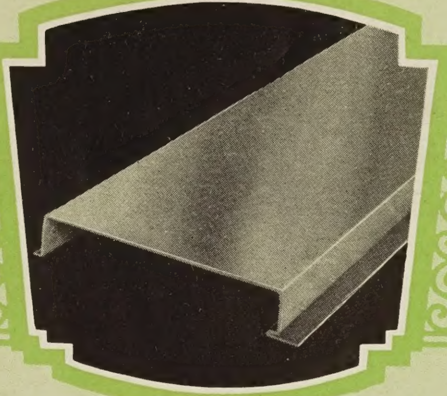
ERECTION DATA AND SPECIFICATIONS



TRUSCON

TRUSCON STEEL CO

Ferrobord

TRADEMARK REG. & PAT. APPLIED FOR

ROOFDECK

INSULATED TO ANY DEGREE AND WATERPROOFED

ARMCO

INGOT IRON

TRUSCON STEEL COMPANY, YOUNGSTOWN, OHIO
TRUSCON STEEL COMPANY *of* CANADA, LIMITED, WALKERVILLE, ONT.
Warehouses and Sales Offices in All Principal Cities

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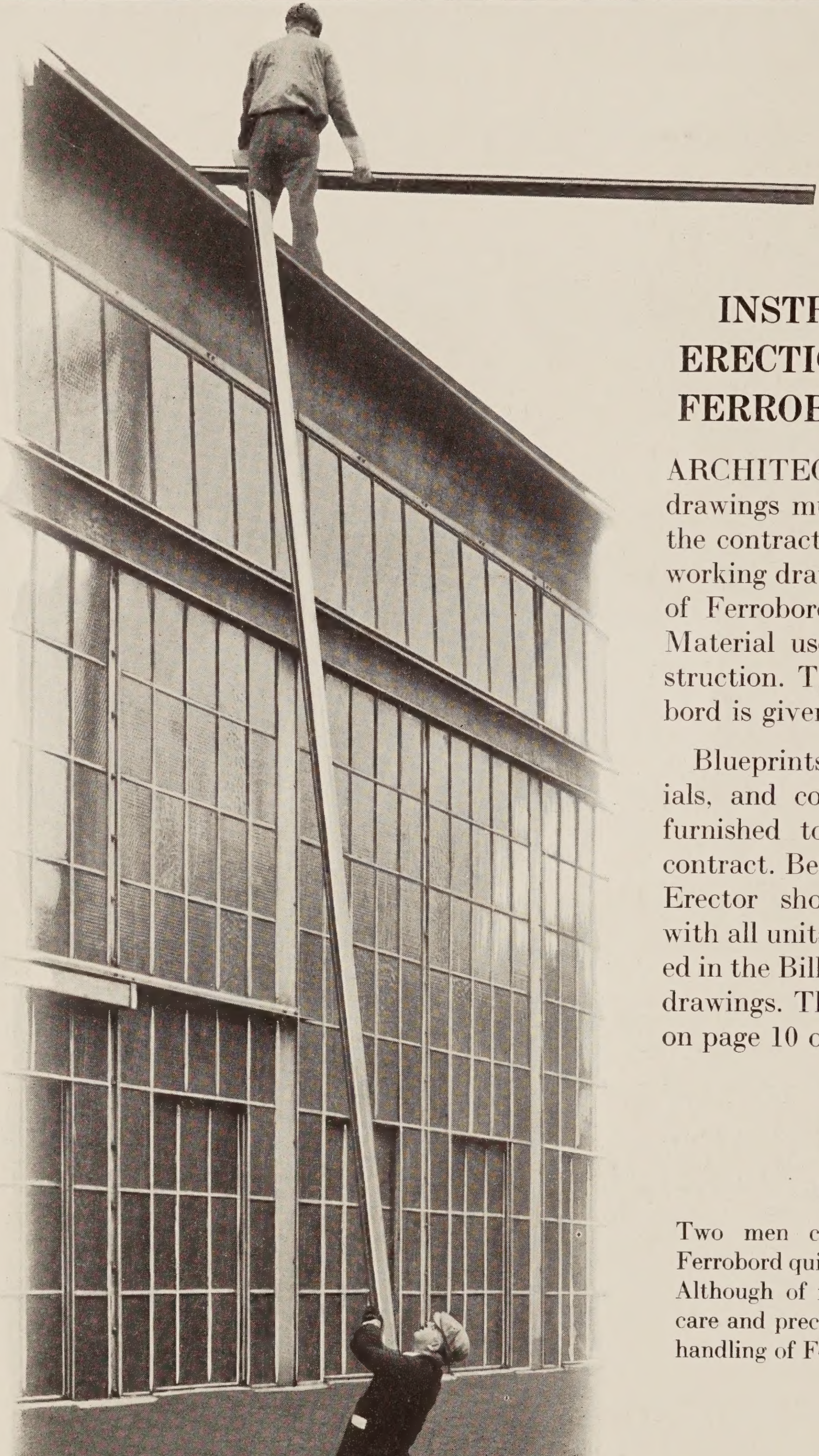

Fig. 1

INSTRUCTIONS FOR ERECTION OF TRUSCON FERROBORD ROOFDECK

ARCHITECTURAL and structural drawings must be furnished us with the contract. From these we prepare working drawings showing the layout of Ferrobord, together with Bill of Material used in the roofdeck construction. The marking of all Ferrobord is given in the Bill of Material.

Blueprints of layout, Bill of Materials, and copy of this Bulletin are furnished to the Erectors on each contract. Before starting erection the Erector should familiarize himself with all units of the roofdeck described in the Bill of Material given on our drawings. These units are designated on page 10 of this bulletin.

Fig. 1

HANDLING

Two men can handle and distribute Ferrobord quickly without physical effort. Although of rigid construction, ordinary care and precaution must be taken in the handling of Ferrobord to prevent damage.

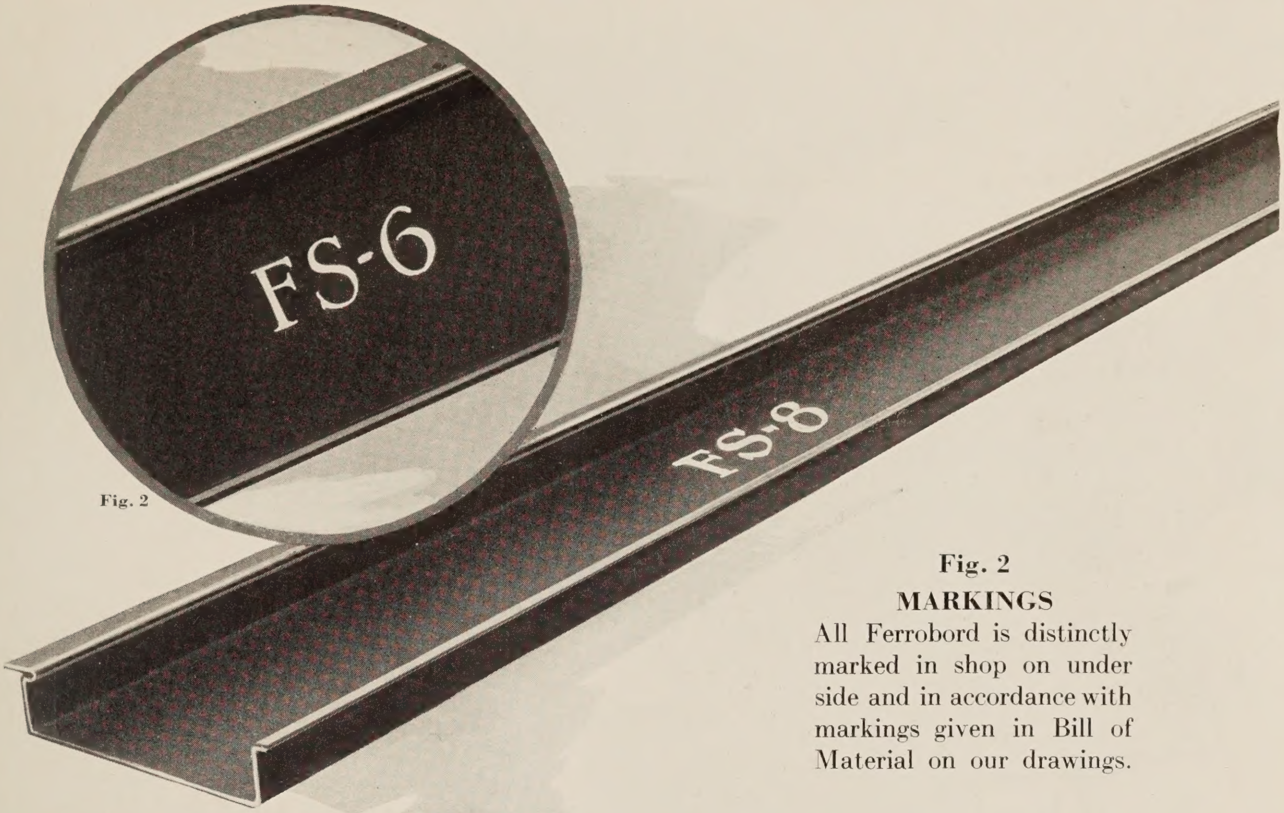

Fig. 2

Fig. 2

MARKINGS

All Ferrobord is distinctly marked in shop on under side and in accordance with markings given in Bill of Material on our drawings.

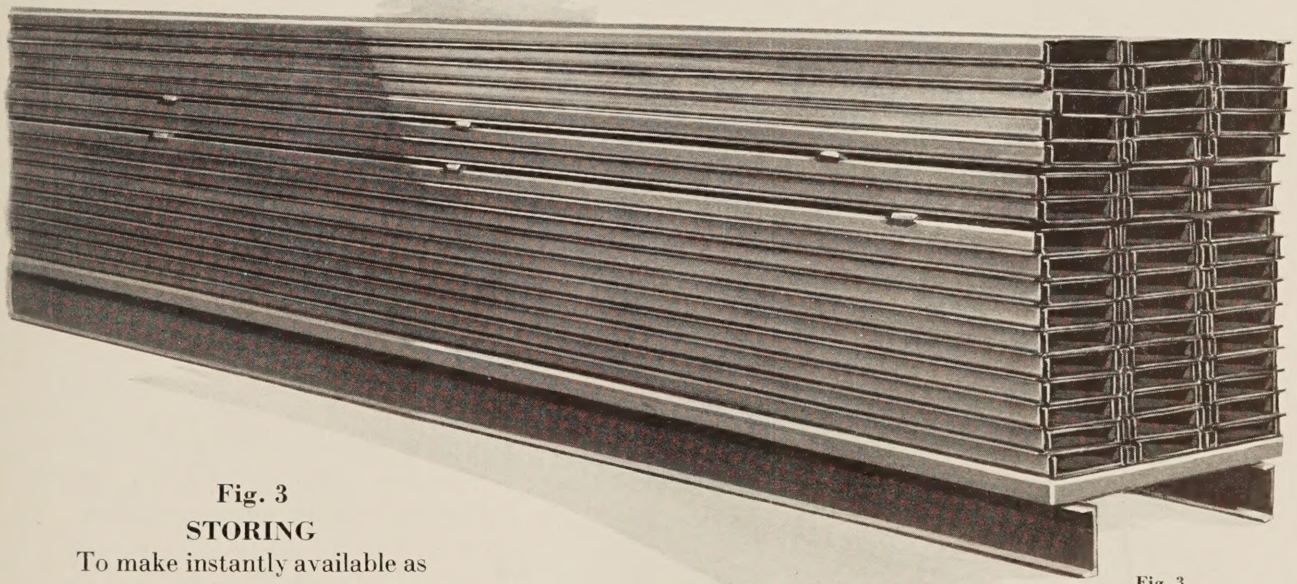

Fig. 3

Fig. 3

STORING

To make instantly available as required, Ferrobord units should be piled on wood blocks according to their markings when stored at the building site.

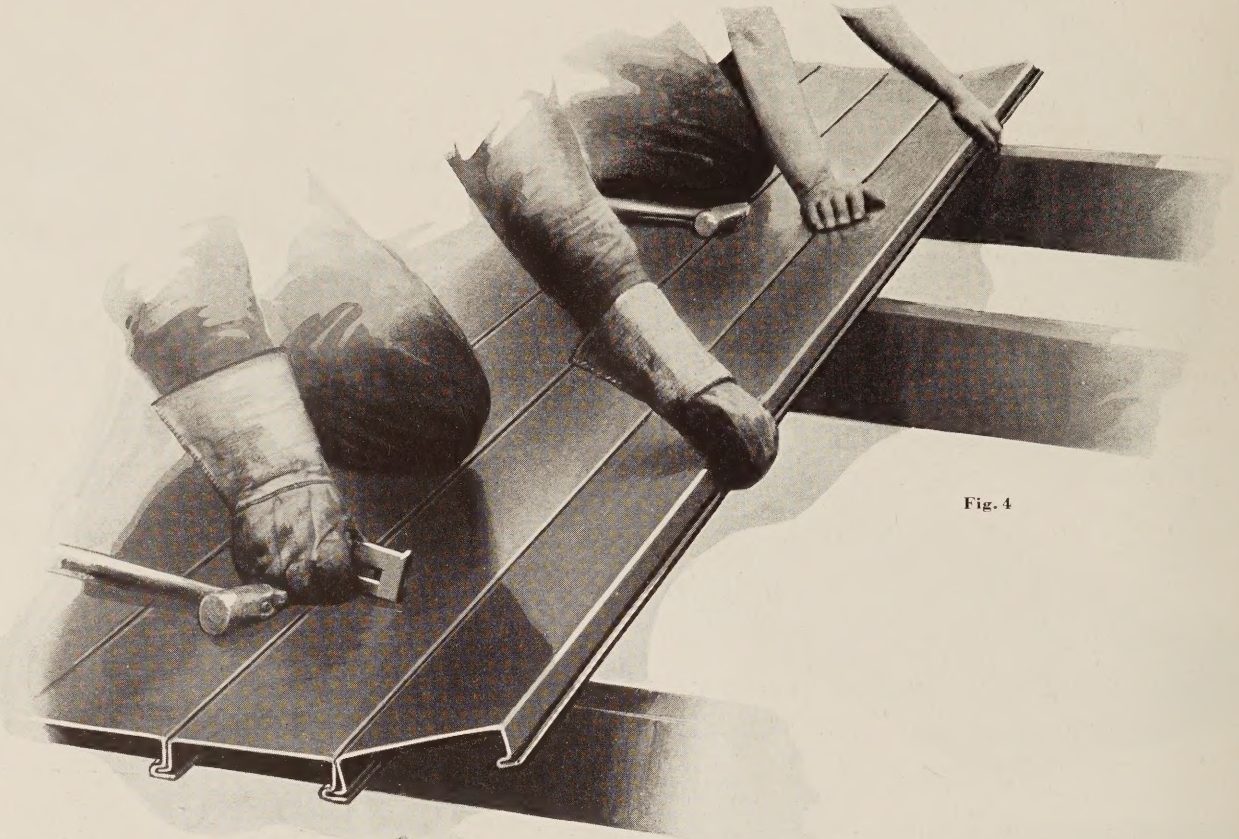

Fig. 4

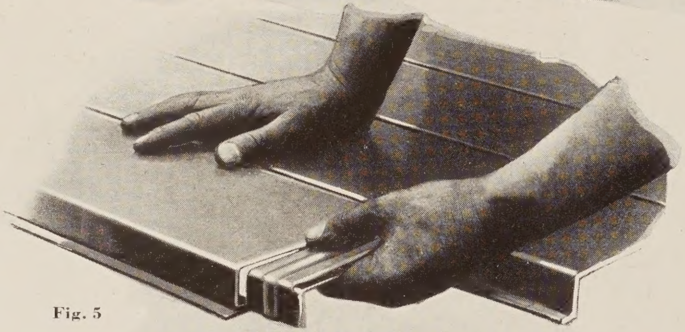

Fig. 5

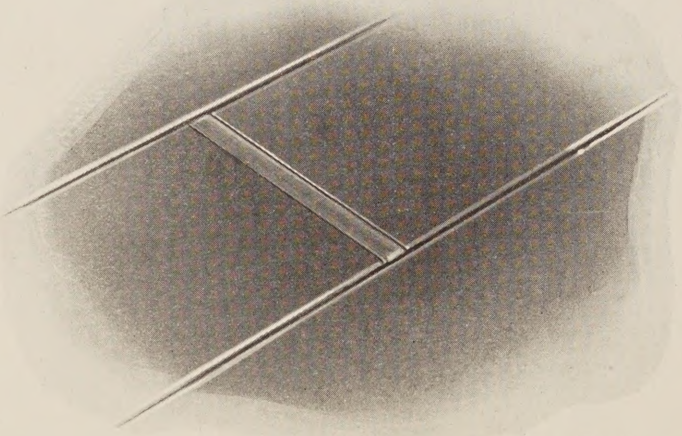

Fig. 6

Fig. 4

LAYING DECK

In the erection of the deck, successive sheets are laid as shown in Figure 4, the interlocking ribs being securely fastened to the purlins by means of purlin clips.

Fig. 5

BUTT JOINT CLIPS (1st operation)

Butt Joint Clips for joining the ends of Ferrobord sheets are inserted into the end of the sheet until the "shoulder" of the clip butts tightly against the sheet.

Fig. 6

BUTT JOINT CLIPS (2nd operation)

Adjoining sheet is slipped into Butt Joint producing a rigid unbroken surface. Fig. 6 also shows completely installed deck with butt joint correctly applied.

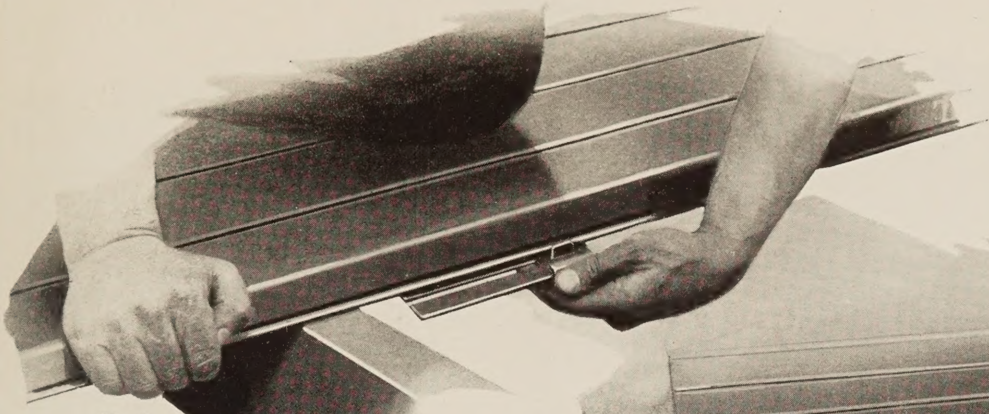

Fig. 7

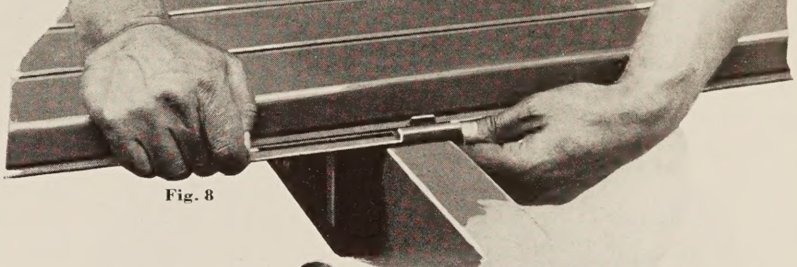

Fig. 8

Fig. 7

PURLIN CLIPS (1st operation)

Purlin Clips are attached every 6″ across the deck *i. e.* on every interlocking rib. The outside lug of the purlin clip is engaged with the double flanged edge of the sheet from the under side of the rib.

Fig. 8

PURLIN CLIPS (2nd operation)

The purlin clip thus engaged is pushed toward the purlin flange until the lower lip of the clip clamps rigidly on the flange.

Fig. 9

PURLIN CLIPS (3rd operation)

With the purlin clip in this position the outstanding leg is driven down the back of the roof purlin, thus fastening it firmly in place.

Fig. 10

PURLIN CLIPS (final operation)

The final operation in placing the purlin clip is to clinch the Ferrobord securely to the clip by driving the upstanding lug down over the lower flange of the Ferrobord. The clip does not interfere with the laying of the next sheet.

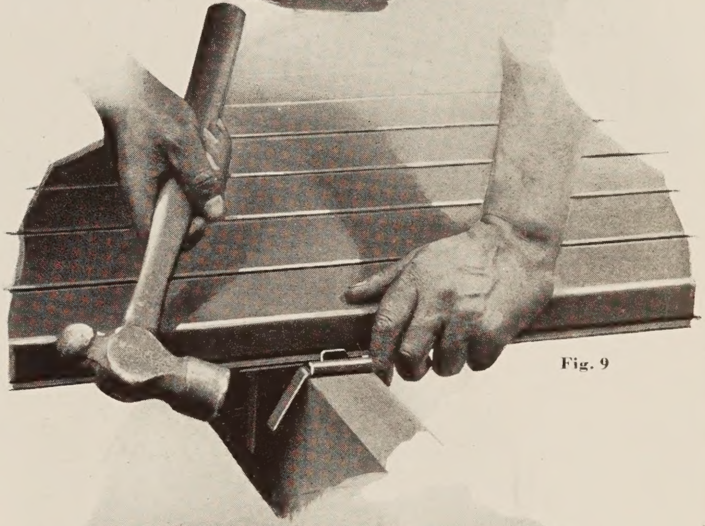

Fig. 9

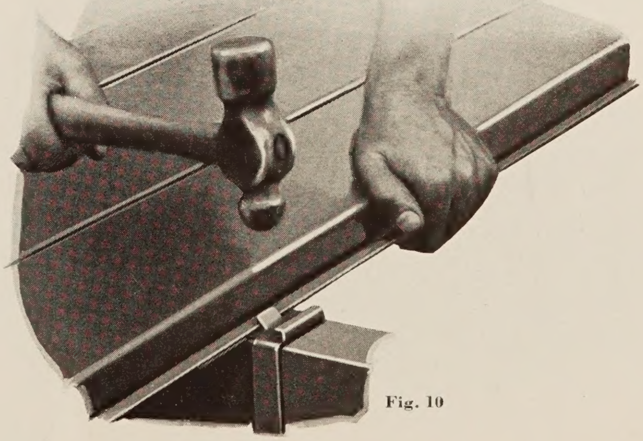

Fig. 10

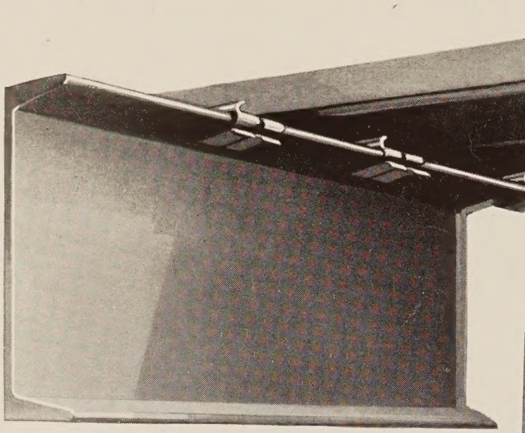

Fig. 11

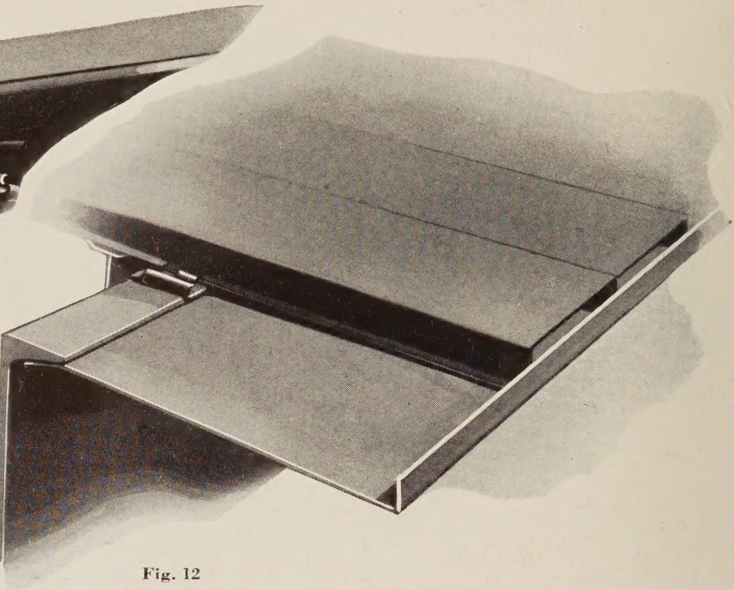

Fig. 12

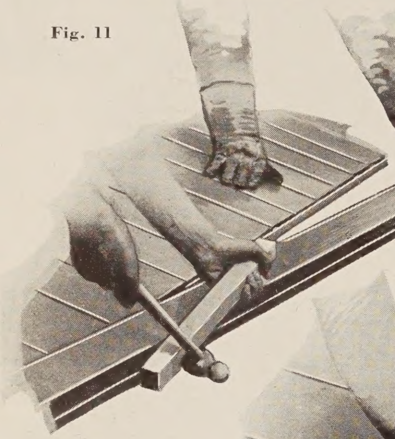

Fig. 13

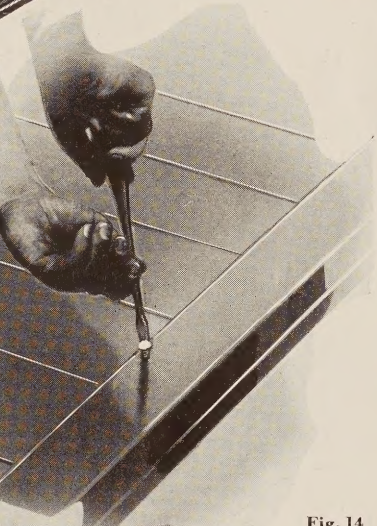

Fig. 14

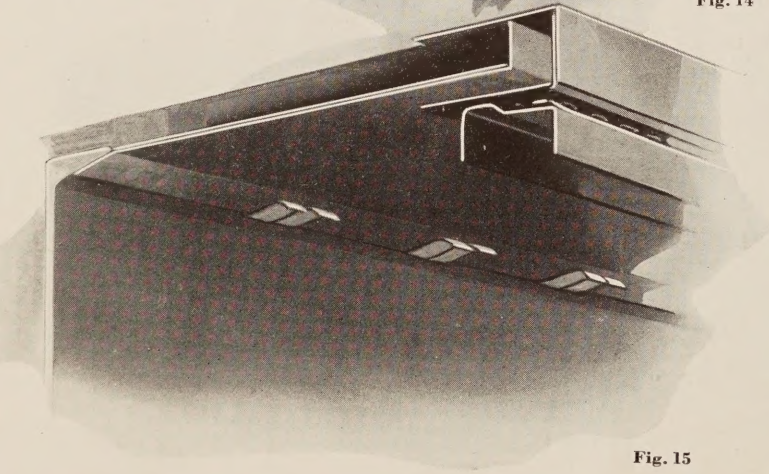

Fig. 15

Fig. 11

EAVE PURLIN CLIP

Application of the eave purlin clips at the eave overhang, similar to plate purlin clip. Prongs on under side of clip are formed to hold the eave closing plate firmly in place.

Fig. 12

CLOSING PLATE

Eave closing plate firmly driven in eave purlin clips and ready to receive cornice and nailer bead.

Fig. 13-14

CORNICE AND NAILER BEAD

The Cornice and Nailer Bead is driven over the Ferrobord and the Closing Plate at all eave and gable overhangs and secured by metal screws (No. 14 x $\frac{3}{4}''$) at 2′0″ o. c. The screws are started in holes made with an ordinary cold punch.

Fig. 15

COMPLETE EAVE OVERHANG

Closing plate and cornice and nailer bead erected in place forming a rigid overhang.

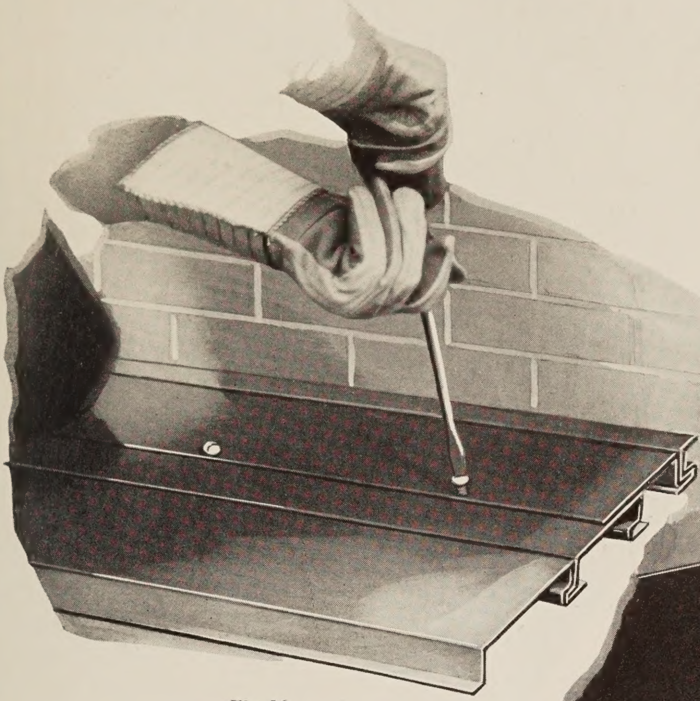

Fig. 16

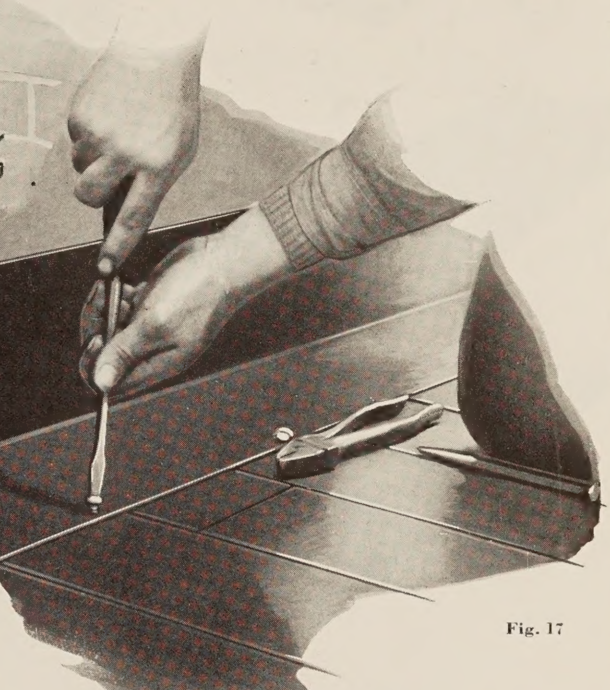

Fig. 17

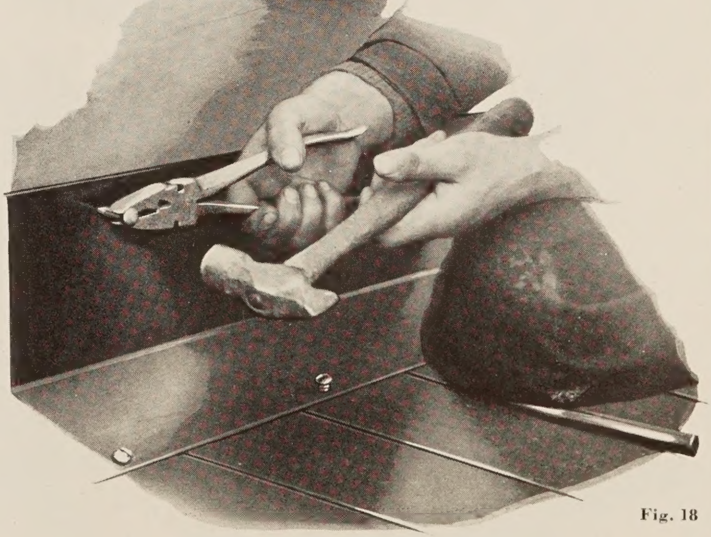

Fig. 18

Fig. 16

FILLER SHEET

Spaces less than 6″ between deck and parapet or similar wall are filled with a Filler Sheet and Tee Section. Filler Sheet lays over the last standard sheet and is firmly held to it by metal screws, 2′0″ o. c.

Fig. 17

BACKING PLATE (1st operation)

Backing Plates are placed along the wall of adjoining buildings, pent houses, and along all parapet walls. They are screwed to the Ferrobord with No. 14 x ¾″ metal screws at 2′0″ o. c.

Fig. 18

BACKING PLATE (2nd operation)

Backing plates are nailed to masonry walls with masonry nails at 1′0″ o. c.

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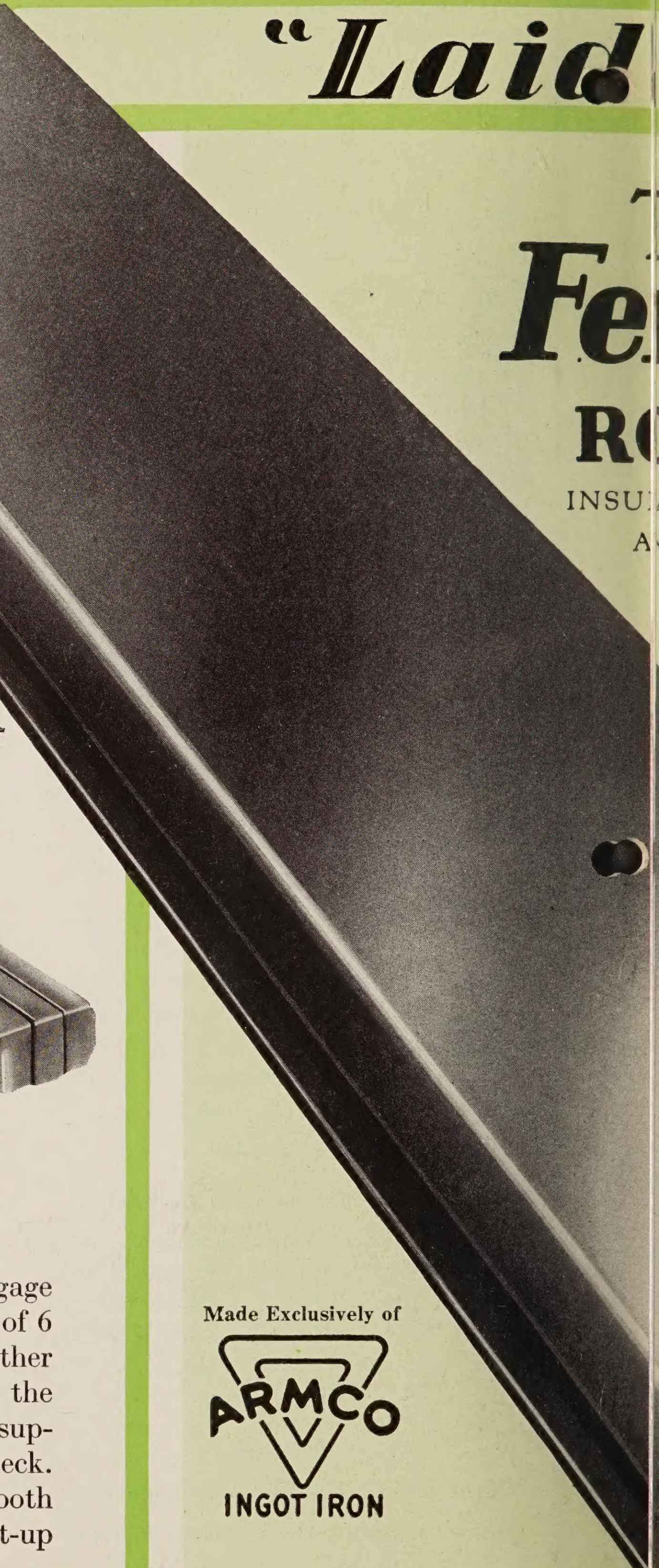


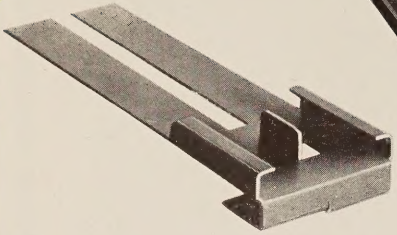
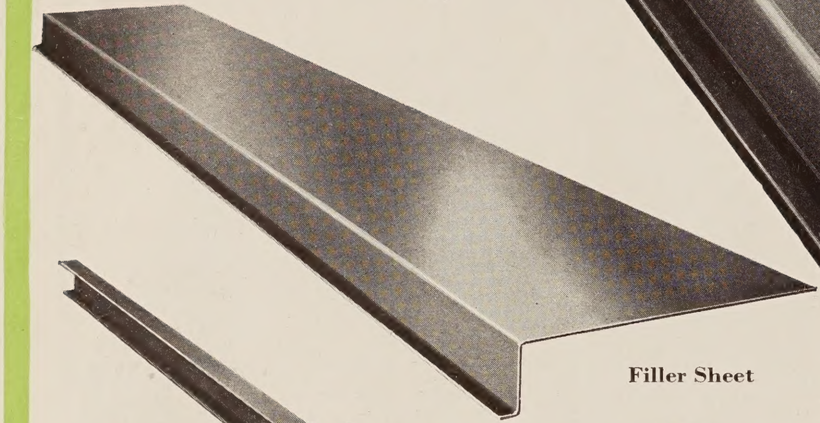
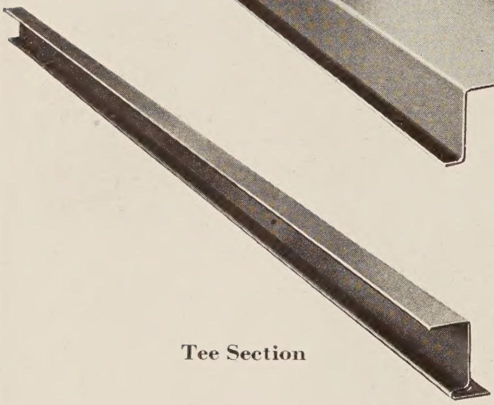


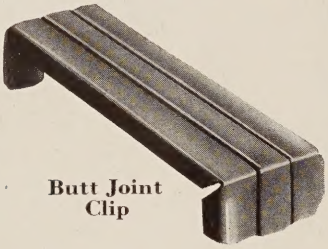
Plate Purlin Clip



Filler Sheet



Tee Section



Butt Joint Clip

FERROBORD is rolled from 18 and 20 gage ARMCO Ingot Iron with a finished width of 6 inches. Along the edges of each unit are ribs, either 1¼″ or 1¾″ in depth, which interlock into the ribs of adjacent units and form structural supporting members at 6″ intervals across the deck. When properly laid, Ferrobord presents a smooth finished surface to which insulation and built-up roofing is applied.

Made Exclusively of

ARMCO

INGOT IRON

Like Boards”

RUSCON

robord

DEMARK REG. & PAT. APPLIED FOR

OFDECK

ED TO ANY DEGREE
WATERPROOFED

FERROBORD DATA

Standard Width:

6 inches.

Length of Sheets:

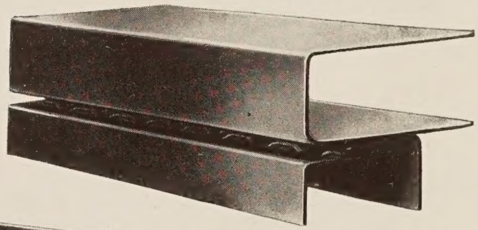
Rolled and cut to lengths required.

Dimensions of Sections:

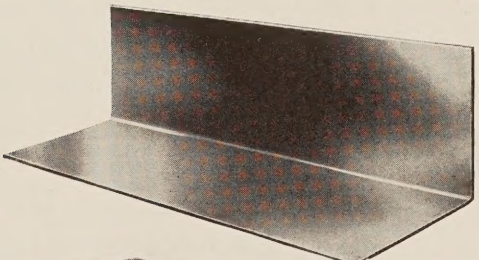
Spaced 6″ centers
Depth 1¼″ and 1¾″
Bottom Flange width ¾″

Gage:

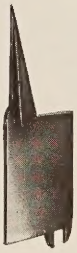
18 and 20 U. S. Standard



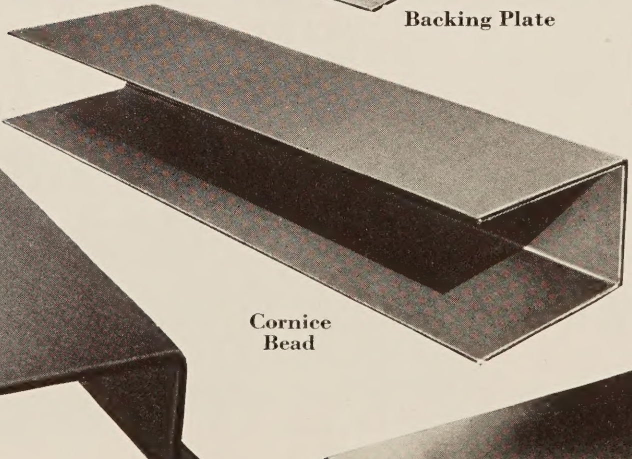
Cornice and Nailer Bead



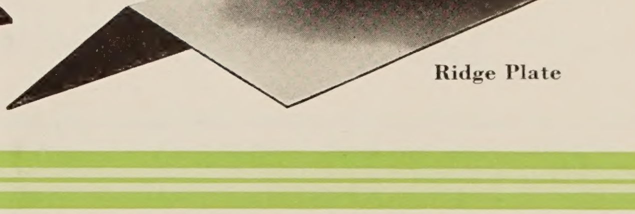
Backing Plate



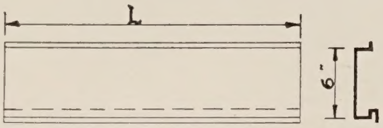
Insulation Cleat



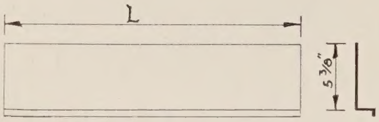
Cornice Bead



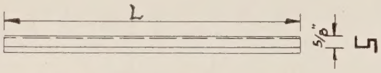
Ridge Plate



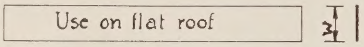
STANDARD ROOF SHEET
MK. FS1. FS2. ETC.



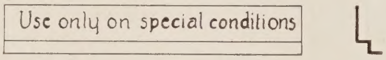
FILLER SHEET
MK. FN1 FN2 ETC.



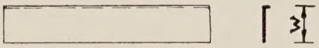
TEE SECTION
MK. ET1. ET2. ETC.



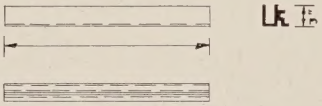
EAVE & GABLE CLOSING PLATE
MK. P1. P2 ETC.



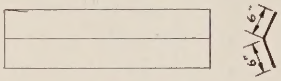
EAVE & GABLE CLOSING PLATE
MK. PGP1X. PGP2X, ETC.



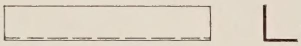
EAVE & GABLE CLOSING PLATE
MK. PGP1. PGP2, ETC.



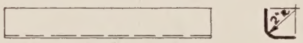
EAVE & GABLE CORNICE NAILER BEAD
MK. PGC1. PGC2. ETC.
NOTE WHERE POSSIBLE USE 8'0" LENGTHS



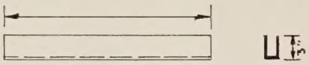
RIDGE PLATE. MK. PR1.
NOTE: ORDER IN LINEAL FT PLUS 3% EXTRA FOR LAP



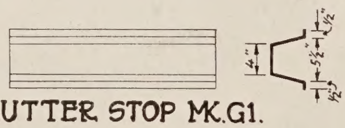
BACKING PLATE MK. PF1
NOTE. ORDER IN LINEAL FT. PLUS 3% EXTRA FOR LAP



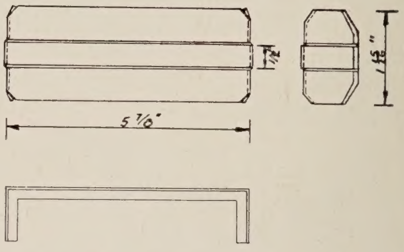
BACKING PLATE MK. DF1
NOTE: ORDER IN LINEAL FT. PLUS 3% EXTRA FOR LAP



EAVE & GABLE CORNICE BEAD
MK. PGB1. PGB2. ETC.
USED ON MITERED EDGES



GUTTER STOP MK. G1.



BUTT JOINT
MK. FSC1.

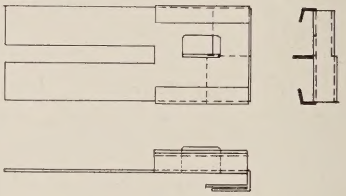


PLATE PURLIN CLIP
MK. FPC1, FPC2

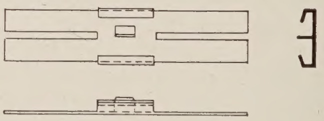
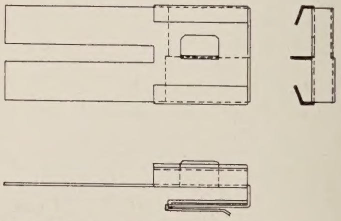


PLATE PURLIN CLIP
MK. FPC3.

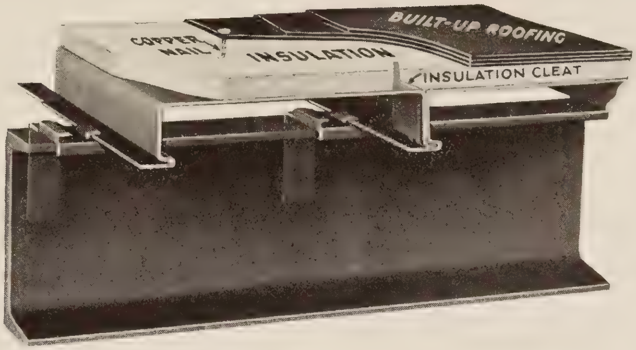


EAVE PURLIN CLIP
MK. FEC1

NOTE-ALLOW 1/2" CLEARANCE BETWEEN THE ENDS of SHEETS FOR THE BUTT JOINTS.

STANDARD DETAILS OF FERROBORD ROOF DECK

— TRUSCON STEEL Co - YOUNGSTOWN OHIO —



Ferrobord with cleat to hold insulation and copper nail for fastening waterproofing.

Advantages of Ferrobord Construction

Light in Weight. Roof weighs approximately 5 lbs. per square foot including insulation and built-up roofing.

Incombustible. Protects the whole building from fire.

Expansion and Contraction Difficulties Eliminated. Expansion joints are provided in two directions at the sides and ends of each sheet. There can be no accumulation of appreciable movement. Insulation and built-up roofing are positively free from injury by this usual source of trouble.

Insulation to meet any condition can be easily applied.

Saves Time. Speeds completion of buildings, especially in wet and winter seasons.

Low Final Cost. Light weight effects savings in structural supports.

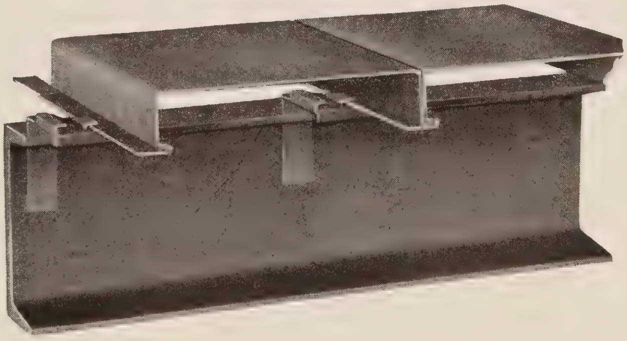
Correct Engineering. Spans to 10 feet between supports, depending upon the loading requirements.

No Engineering Layout Required. No loss in time in making special erection layout division.

Permanent. Made of ARMCO Ingot Iron. Protected from above and below.

Adaptable. Best for straightaway, flat, pitched and curved roofs with minimum radius of 40′ 0″.

Undivided Responsibility. Roofers will furnish complete installation including roofdeck, insulation and built-up roofing.



Ferrobord Roofdeck attached to purlins with "Plate" Clips

SPECIFICATIONS

ROOFDECK:

1. Roofdeck shall be of the Ferrobord type as manufactured and fabricated by the Truscon Steel Company, Youngstown, Ohio, and shall be so proportioned that the sum of the dead and live loads shall not cause tension stress, per net section, in excess of a unit stress of 18,000 pounds per square inch.

2. Sheets shall be ARMCO Ingot Iron in accordance with No. . . gage U. S. Standard specifications. Material shall be full pickled, reannealed and patent leveled.

3. No substitution of Roofdeck shall be made unless authorized by architects and engineers.

4. Sections formed in the sheets shall provide rigidity and strength for use with purlins spaced not to exceed....feet,....inches for supporting a live load of....pounds per square foot applied on either side of deck. Maximum allowable deflection, $\frac{1}{250}$ of the span when uniformly distributed and concentrated loads are considered.

5. The deck shall span over at least three purlins and be secured to each purlin by suitable purlin clips spaced every six inches. The end joints, if any, shall be securely fastened together by means of butt clips.

6. All eaves, gables, parapet walls, valleys, monitors and skylight curbs shall be reinforced with steel sheet sections and sealed as per standard details, using accessories as furnished by the Truscon Steel Company.

7. All material, including clips and fasteners, shall have one shop coat of Truscon Bar-OX paint applied immediately after fabrication.

8. Roofdeck shall be free from punctures due to the application of purlin clips, butt joints and insulation cleats.

INSULATION: (Flat and Pitched Roofs)

1. The roofdeck shall be insulated with........ ....as manufactured by ...., or equal to a thickness of......inches. Approximately............ pounds per square of adhesive waterproofing material, which will retain its ductility under all conditions, shall be used to insure a perfect bond between the insulation and roofdeck.

   When roofdeck is pitched more than 3″ in 12″, the insulation material shall be held securely to the roofdeck by means of insulation cleats. The cleats shall be driven into the web of the interlocking sheets of the roofdeck, without puncturing the sheets. One cleat shall be used for each four square feet of roof area.

2. To assure perfect bond, no more area shall be mopped than will permit the laying of insulation while the waterproofing material is hot. Insulation shall be fitted neatly around projections, such as vent pipes, flag poles, etc., at pent houses, walls, skylights, etc., and all joints sealed with waterproofing material.

3. Care shall be taken to protect insulation from moisture prior to laying and during installation. No more insulation shall be laid than can be fully waterproofed and sealed at edges of sheets during one day's run.

4. Insulation shall be laid in accordance with the manufacturer's instructions.

BUILT-UP ROOFING (Smooth Surface)

1. On the insulation there shall be applied . . . ply built-up roofing, laid in accordance with the manufacturer's specifications.

2. At the eave of the building, the built-up roofing shall be carried over the edge and securely fastened to eave strip with roofer's nails driven in slot provided for that purpose, and of sufficient spacing to hold the waterproofing felt securely in place and avoid any possibility of its working loose.

3. In finishing the job, care must be exercised to cut the built-up roofing even with the lower edge of eave strip, in order to present a workmanlike job and as a protection against damage.

4. On pitched roof construction, the roofing felt applied directly on the roof insulation, shall be nailed in place with "duck's bill" copper nails of sufficient length to "turn up" when striking the Roofdeck and clinch the roofing felt firmly in place.

BUILT-UP ROOFING (Rough Surface)

1. On the insulation there shall be applied . . . ply built-up roofing, laid in accordance with the manufacturer's specifications.

2. For each one hundred square feet of completed roof, there shall be used not less than . . . . pounds of tar and not less than . . . . pounds of gravel, or . . . . pounds of slag, from one-fourth ($\frac{1}{4}''$) to five-eighths ($\frac{5}{8}''$) inch in size. The gravel and slag shall be dry and free from dirt.

3. The eaves shall be properly finished off with metal gravel stops.

Although the Truscon Steel Company does not manufacture and market insulation and built-up roofing, co-operation with manufacturers of insulation and roofing materials is an approved policy for the purpose of preparing complete data, specifications, etc.

ERECTION SERVICE

Roof Satisfaction and Roof Service depend largely upon Proper Roof Installation

As with our other specialty products we render a definite field service to roofers and contractors in co-operation with the profession and trade. For this reason, a nation-wide Truscon Erection Service is maintained, with erection superintendents permanently located in principal cities all over the country. Under the supervision of each superintendent are field men who cover certain territories, making the Erection Service available everywhere.

Every field man, through constant contact with all kinds of building problems, has become expert in erecting Truscon products under all kinds of conditions. Working in co-operation with the contractor's organization, a Truscon Erection crew assumes all responsibility for the proper installation of the Ferrobord roof.

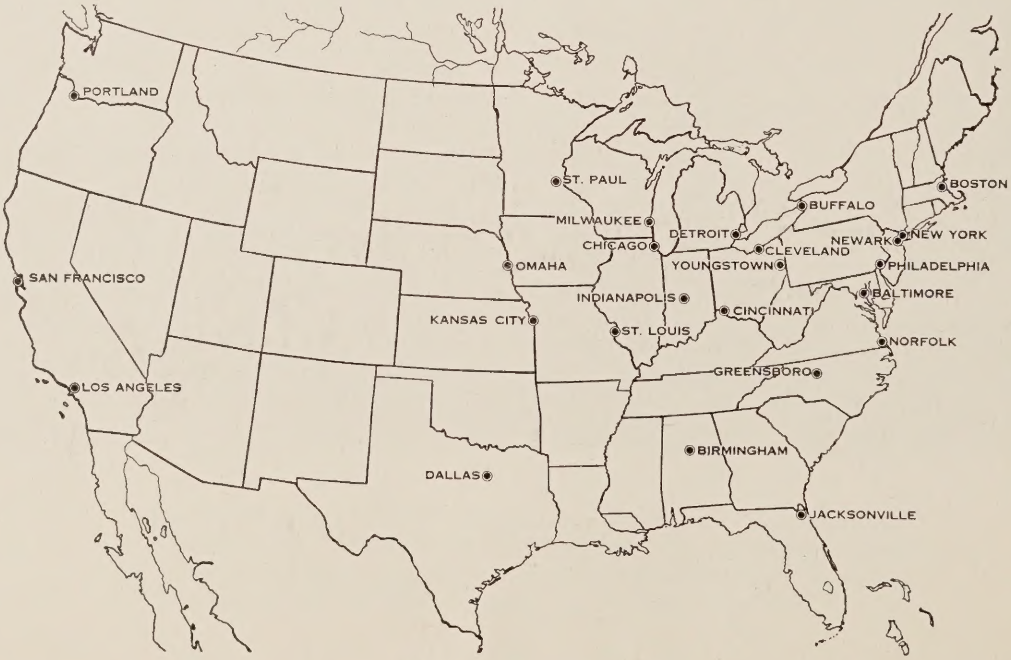
Truscon Erection Service is efficient and quickly accessible. It is at the disposal of the customer at a nominal fee, and when the difference between an improperly erected job and skilled erection is considered, it is eminently economical. No adjustments are required when Truscon installs the roof.

WAREHOUSE SERVICE

Truscon Warehouses are located in principal cities throughout the country. Stocks of Ferrobord and accessories are maintained in the larger warehouses, assuring immediate shipments and speedy deliveries.

Electric saws are installed at warehouses, and stock lengths of Ferrobord Roofdeck are cut to the customer's required sizes. Orders through district office warehouses usually can be filled on one day's notice.

Roofers in the larger cities carry standard lengths of Ferrobord Roofdeck. Shipments are made from warehouses to roofers, either for stock replacement or for delivery directly to the job. This service insures quick deliveries on customers' orders.



TRUSCON SALES OFFICES

Albany, N. Y., 75 State Street
Altoona, Pa., 231 Central Trust Building
Atlanta, Ga., 705 Mortgage Guarantee Building
Baltimore, Md., 1507 Standard Oil Building
Birmingham, Ala., 513 North 21st Street
Boston, Mass., 260 Tremont Street
Brooklyn, N. Y., 26 Court Street
Buffalo, N. Y., 204 Sidway Building
Charleston, W. Va., 210 Union Building
Chattanooga, Tenn., 505 James Building
Chicago, Ill., 228 North LaSalle Street
Cincinnati, Ohio, 505 Walnut Street
Cleveland, Ohio, 6100 Truscon Avenue
Columbus, Ohio, 1000-04 Atlas Building
Dallas, Texas, 413 Construction Industries Bldg.
Dayton, Ohio, 802 Harries Building
Decatur, Ill., 408 Standard Life Building
Denver, Colorado, 430 Cooper Building
Des Moines, Iowa, Hubbell Building
Detroit, Michigan, 615 Wayne Street
Erie, Pa., 1207 French Street
Fort Wayne, Ind., care of Old Fort Supply Co.
Grand Rapids, Mich., 301 McMullen Building
Greensboro, N. C., 830 Jefferson Stand. Building
Harrisburg, Pa., 600-2 North Second Street
Hartford, Conn., 983 Main Street
Hempstead, L. I., 250 Fulton Avenue
Houston, Texas, 1701 Oliver Street
Indianapolis, Ind., 812 Union Title Building
Jacksonville, Fla., 324 Hildebrandt Building
Kansas City, Mo., 611 Bryant Building
Louisville, Ky., 621 Marion E. Taylor Building
Madison, Wis., 408 West Gorham Street
Memphis, Tenn., care Fischer Lime & Cement Co.
Milwaukee, Wis., 1200 Straus Building
Minneapolis, Minn., Metropolitan Bank Bldg.
Newark, N. J. Suite 605 Broad Street
New Haven, Conn., 42 Church Street
New Orleans, La., 448 Canal Bank Building
New York, N. Y., 31 Union Square
Norfolk, Va., 526 Dickson Building
Oklahoma City, 317-319 Magnolia Building
Omaha, Neb., 901 World-Herald Building
Philadelphia, Pa., 1505 Race Street
Pittsburgh, Pa., 523-6 Grant Building
Portland, Oregon, 449-457 Kerby Street
Providence, R. I., 87 Weybosset Avenue
Richmond, Va. 15 North 6th Street
Rochester, N. Y., 614 Temple Building
Roswell, N. M., County Engineer's Office
St. Louis, Mo., 1304 Ambassador Building
San Antonio, Texas, 901 Travis Building
Seattle, Wash., 310-11 Seaboard Building
Salt Lake City, Utah, 1526 S. West Temple St.
San Francisco, Calif., 74 New Montgomery St.
Scranton, Pa., 620 Wheeler St.
South Bend, Ind., 222 Christman Building
Syracuse, N.Y., 440 Gurney Building
Tampa, Fla., 320 Lafayette Arcade
Toledo, Ohio, 312 Richardson Building
Washington, D. C., 801 Hill Building
Wichita, Kans., 808 Brown Building
Los Angeles, Calif., 5480 East Slauson Avenue

FOREIGN TRADE DIVISION, 90 West Street, NEW YORK CITY
PRESSED STEEL DIVISION, CLEVELAND, OHIO
TRUSCON STEEL COMPANY OF CANADA, Limited, WALKERVILLE, ONT.
THE TRUSCON LABORATORIES, DETROIT, MICHIGAN
(*For Waterproofings, Floor Hardeners, Industrial Maintenance Products and Cement Roofing Tile*)

TRUSCON WAREHOUSES

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Chicago, Ill.
Cincinnati, Ohio
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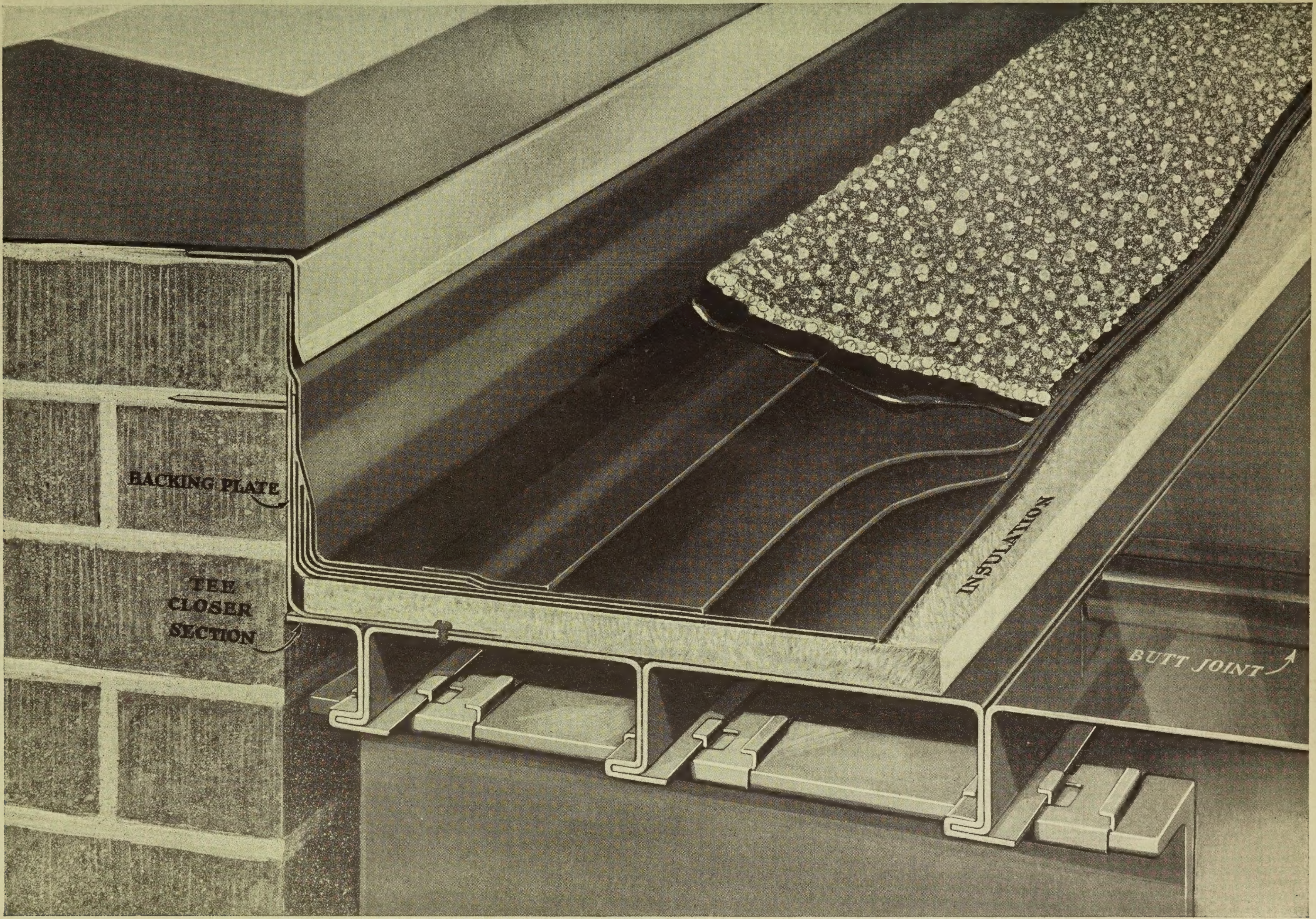
Dallas, Texas
Detroit, Mich.
Greensboro, N. C.
Indianapolis, Ind.
Jacksonville, Fla.
Kansas City, Mo.
Los Angeles, Calif.
Milwaukee, Wis.
Newark, N. J.
New York, N. Y.
Norfolk, Va.
Omaha, Neb.
Philadelphia, Pa.
Portland, Oregon
San Francisco, Calif.
St. Louis. Mo.
St. Paul, Minn.
Youngstown, Ohio

EXECUTIVE OFFICES AND MAIN PLANT

YOUNGSTOWN, OHIO

FACTORIES AT CLEVELAND, DETROIT AND LOS ANGELES



SECTION SHOWING FERROBORD ROOFDECK, INSULATION AND BUILT-UP ROOFING